27. (Amended) The process of Claim 18, wherein the carbonaceous material is formed by pressing pyrolytic carbon powder in a steel die; introducing the pyrolytic carbon powder into a graphite capsule and heating the pyrolytic carbon powder in an induction heating furnace under a vacuum and at a temperature of 1,800 to 2,000°C to anneal the pyrolytic carbon powder.

REMARKS

In order to place the instant application in better form for consideration on appeal, the subject matter of Claim 20 has been incorporated into Claim 18. Additionally, Claim 27 has been amended to depend on Claim 18 in order to respond to the Examiner's rejection under 35 USC 112. Since these amendments result in the cancellation of a claim, respond to formal requirement and place the instant application in better form for consideration on appeal, entry thereof is deemed proper under 37 CFR 1.116(b). Favorable consideration is respectfully solicited.

Respectfully submitted,

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Encl: Marked-Up Amended Claims 18 and 27
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18. (~~New~~Amended) A method of manufacturing a single crystal diamond p-type semiconductor having a thermal conductivity of from about 26-31 W/cm°K and a boron content not exceeding 100 ppm comprising the steps of:

providing a carbonaceous material containing isotopically purified ^{12}C or ^{13}C;

providing a flux containing a nitrogen getter;

adding boron into the carbonaceous material or/and the flux, or around the carbonaceous material and the flux; and

diffusing the carbonaceous material into the flux under a high temperature and pressure to form a boron-doped single crystal diamond p-type semiconductor on a seed crystal diamond.

27. (~~New~~Amended) The process of Claim ~~23~~18, wherein the ~~flaky pyrolytic~~ carbonaceous material is formed by pressing pyrolytic carbon powder in a steel die; introducing the pyrolytic carbon powder into a graphite capsule and heating the pyrolytic carbon powder in an induction heating furnace under a vacuum and at a temperature of 1,800 to 2,000°C to anneal the pyrolytic carbon powder.